TA-1630

AEP Model
UK Model
Canadian Model
E Model

INTEGRATED STEREO AMPLIFIER

SPECIFICATIONS

GENERAL

Power Requirements: 110, 127, 220 or 240 V ac adjustable, 50/60 Hz (AEP, UK, E Model)
120 V ac, 60 Hz (Canadian Model)

Power Consumption: 210 W (AEP, E Model)
150 W (UK Model)
100 W (Canadian Model)

AC Outlets (Canadian Model): 1 switched 200 W
2 unswitched 200 W

Dimensions: Approx.
388 (w) x 145 (h) x 286 (d) mm
15 1/8 (w) x 5 3/4 (h) x 11 1/4 (d) inches
including projecting parts and controls

Weight: Approx. 6.7 kg, 14 lb 12 oz (net)
Approx. 8.5 kg, 18 lb 12 oz (with shipping carton)

AMPLIFIER SECTION

Continuous RMS Power Output (rated output) (Less than 0.5 % harmonic distortion): Both channels driven simultaneously
At 20 – 20,000 Hz
22 + 22 W (8Ω)
At 1 kHz
25 + 25 W (8Ω)
According to DIN 45500
23 + 23 W (8Ω)

Dynamic Power Output (IHF constant power supply method): 120 W (8Ω)

Power Bandwidth: 10 – 40,000 Hz, IHF

Damping Factor: 40 (8Ω, at 1 kHz)

Harmonic Distortion: Less than 0.5 % at rated output
Less than 0.1 % at 1 W output

IM Distortion (60 Hz: 7 kHz = 4:1): Less than 0.5 % at rated output
Less than 0.1 % at 1 W output

Residual Noise: Less than 0.25 μW (8Ω)

Frequency Response:

PHONO	RIAA equalization curve ±0.5 dB
TUNER AUX TAPE 1, 2 REC/PB (input (AEP, UK Model)	20 – 100,000 Hz ±1 dB

(Continued on page 2.)

SONY®
SERVICE MANUAL

Input:

	Sensitivity	Impedance	Maximum input capability (THD 0.8 %)	S/N (weighting network, input level)
PHONO	2.5 mV (–50 dB)	50 kΩ	120 mV	70 dB (B, 2.5 mV)
TUNER AUX TAPE 1, 2 REC/PB (AEP, UK Model)	200 mV (–12 dB)	100 kΩ	–	90 dB (A, 250 mV)

Output:

	Output level	Impedance
REC OUT 1	200 mV (–12 dB)	10 kΩ
REC/PB (AEP, UK Model)	30 mV (–28 dB)	82 kΩ

HEADPHONES: Accepts low and high impedance headphones

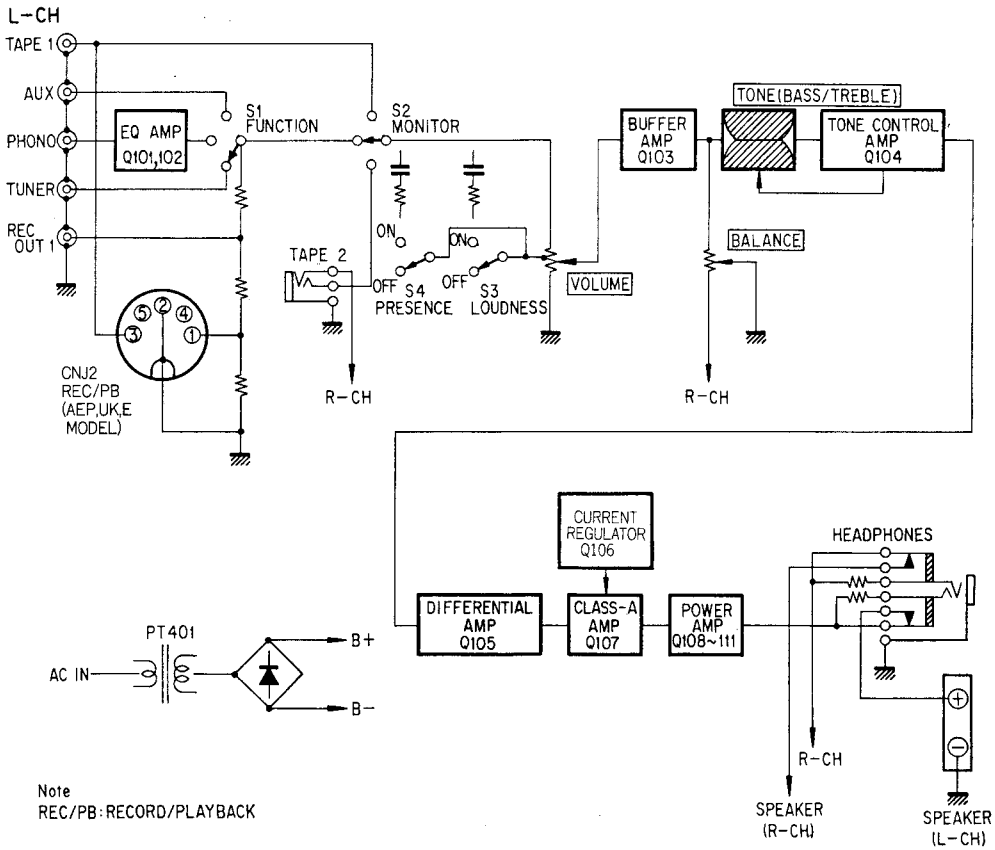
SPEAKER: Accepts 4 – 16 Ω speakers (AEP, Canadian, E Model)
Accepts 8 – 16 Ω speakers (UK Model)

Tone Controls: BASS ±9 dB at 100 Hz
(turnover frequency 250 Hz)
TREBLE ±6.5 dB at 10 kHz
(turnover frequency 4 kHz)

Loudness Controls: +8.8 dB at 50 Hz, +2.5 dB at 10 kHz
(Attenuation: 30 dB)

Presence: +2.5 dB at 1 kHz (Attenuation: 30 dB)

1. BLOCK DIAGRAM



Note
REC/PB:RECORD/PLAYBACK

2. IDENTICATION OF SET

E, AEP Model

SONY®

INTEGRATED STEREO AMPLIFIER
MODEL NO. TA-1630
AC 110, 127, 220, 240V~50/60Hz 210W
SERIAL NO.
MADE IN JAPAN

UK Model

SONY®

INTEGRATED STEREO AMPLIFIER
MODEL NO. TA-1630
AC 110, 127, 220, 240V~50/60Hz 150W
SERIAL NO.
MADE IN JAPAN

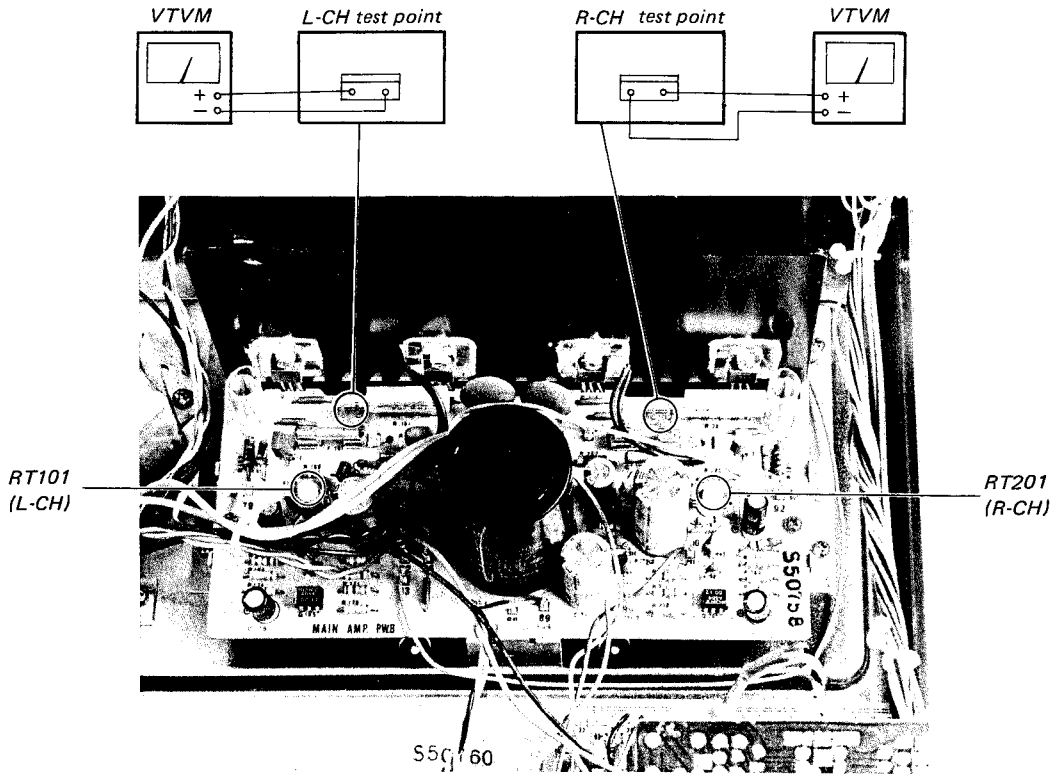
Canadian Model

SONY®

INTEGRATED STEREO AMPLIFIER
MODEL NO. TA-1630
AC 120V 60Hz 100W
SERIAL NO.
MADE IN JAPAN

3. DC BIAS ADJUSTMENT

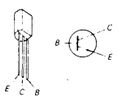
Adjust RT101 (L-CH) and RT201 (R-CH) for 25 mV dc reading on VTVM.



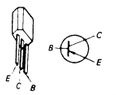
MOUNTING DIAGRAM

– Conductor Side –

Q101, 201. Q103, 203, Q104, 204 : 2SC1362
Q107, 207: 2SC1364

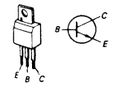


Q102, 202: 2SA705
Q106, 206: 2SA678

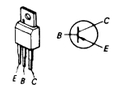


Q105, 205: 2SA884

Q108, 208: 2SC1124

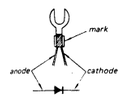


Q109, 209: 2SA706

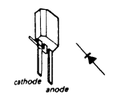


Q110, 210: 2SD531
Q111, 211: 2SB521

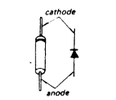
D101, 201: SV04F

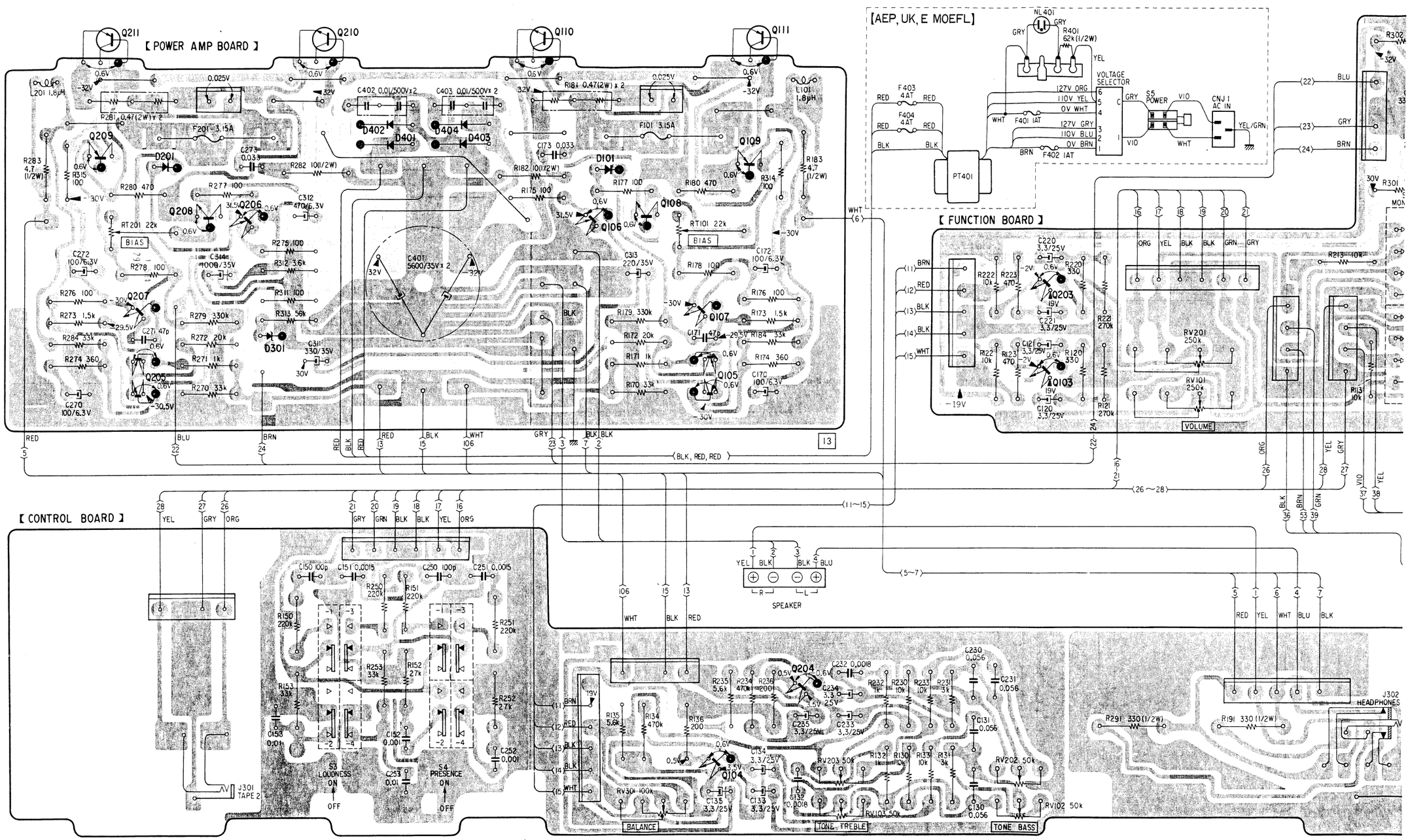


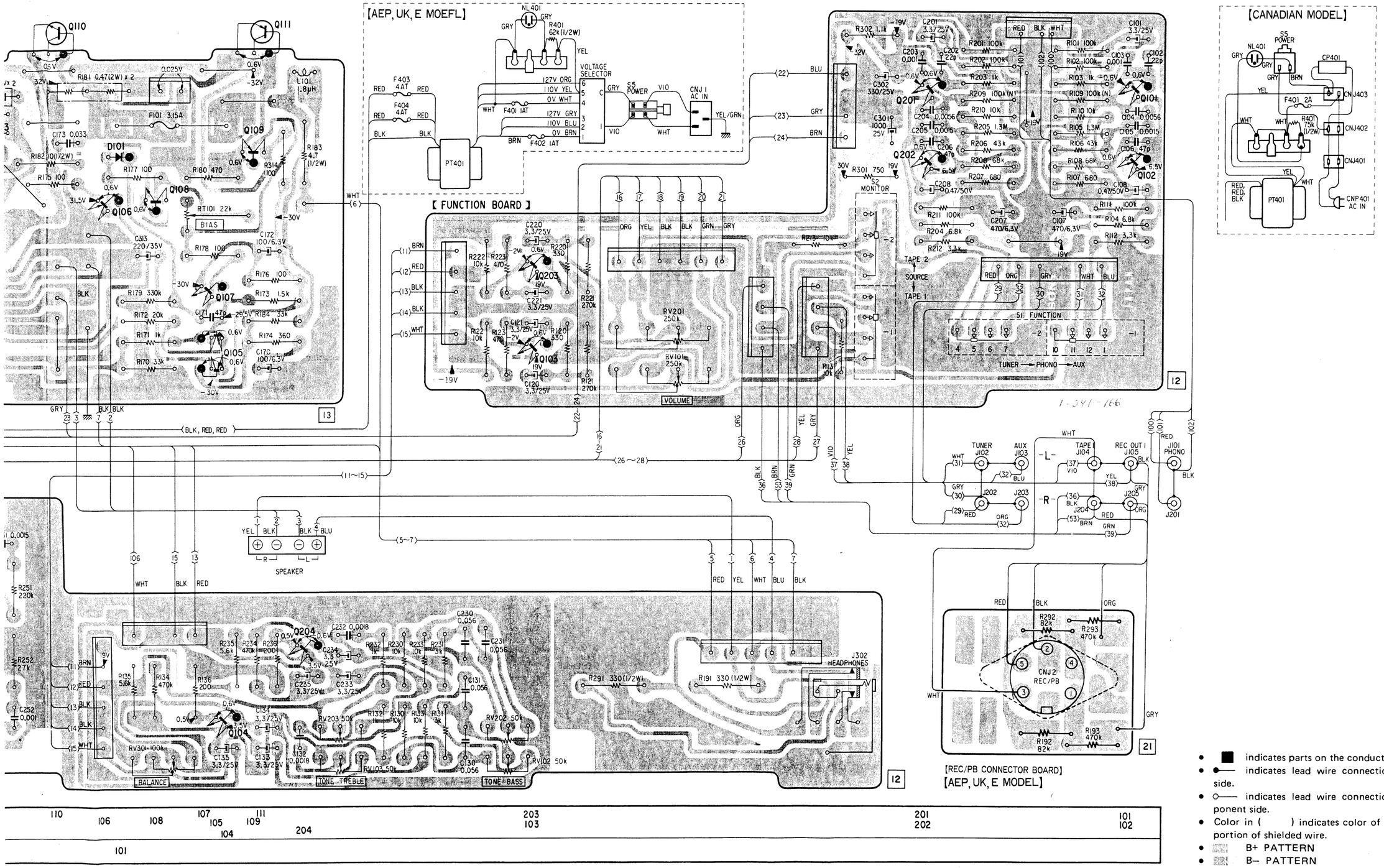
D301: 1T243



D401 ~ 404: 10E2

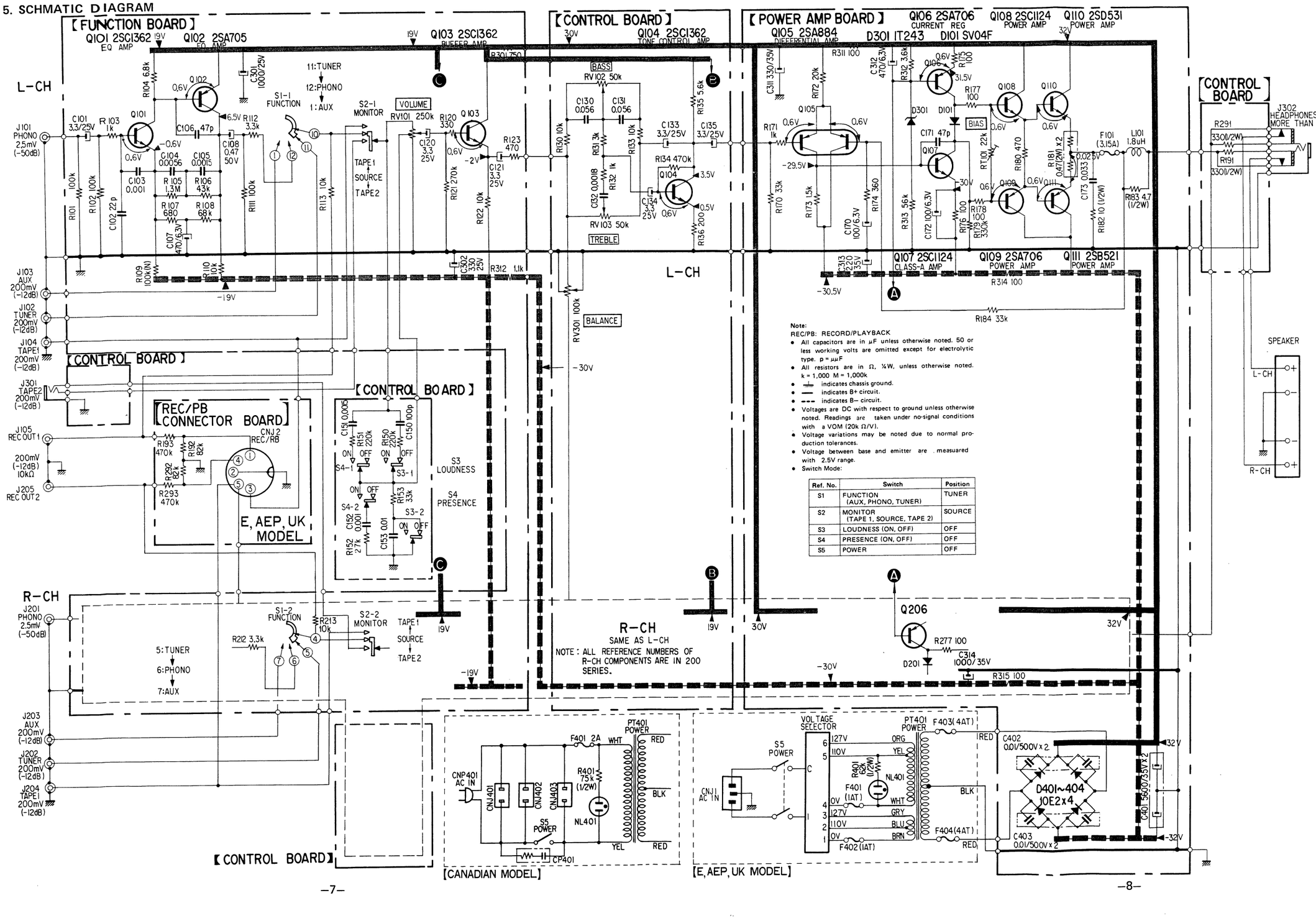






- ■ indicates parts on the conductor side.
- ●—— indicates lead wire connection on the conductor side.
- ○—— indicates lead wire connection through the component side.
- Color in ( ) indicates color of sleeving over the end portion of shielded wire.
- B+ PATTERN
- B– PATTERN

5. SCHMATIC DIAGRAM



Note:
REC/PB: RECORD/PLAYBACK

- All capacitors are in μF unless otherwise noted. 50 or less working volts are omitted except for electrolytic type. p = μμF
- All resistors are in Ω, ¼W, unless otherwise noted. k = 1,000 M = 1,000k
- ⏚ indicates chassis ground.
- —— indicates B+ circuit.
- - - - indicates B− circuit.
- Voltages are DC with respect to ground unless otherwise noted. Readings are taken under no-signal conditions with a VOM (20k Ω/V).
- Voltage variations may be noted due to normal production tolerances.
- Voltage between base and emitter are measured with 2.5V range.
- Switch Mode:

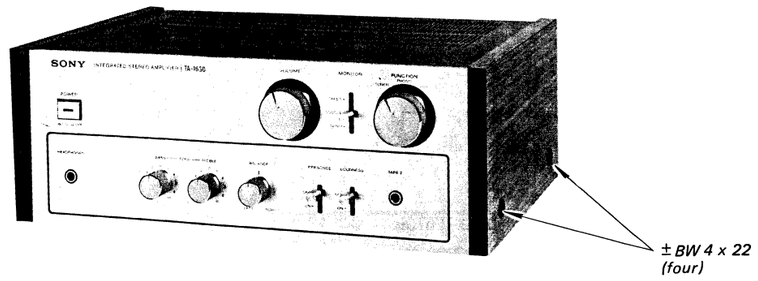
Ref. No.	Switch	Position
S1	FUNCTION (AUX, PHONO, TUNER)	TUNER
S2	MONITOR (TAPE 1, SOURCE, TAPE 2)	SOURCE
S3	LOUDNESS (ON, OFF)	OFF
S4	PRESENCE (ON, OFF)	OFF
S5	POWER	OFF

R-CH
SAME AS L-CH
NOTE : ALL REFERENCE NUMBERS OF R-CH COMPONENTS ARE IN 200 SERIES.

6. DISASSEMBLY

SIDE BOARD REMOVAL

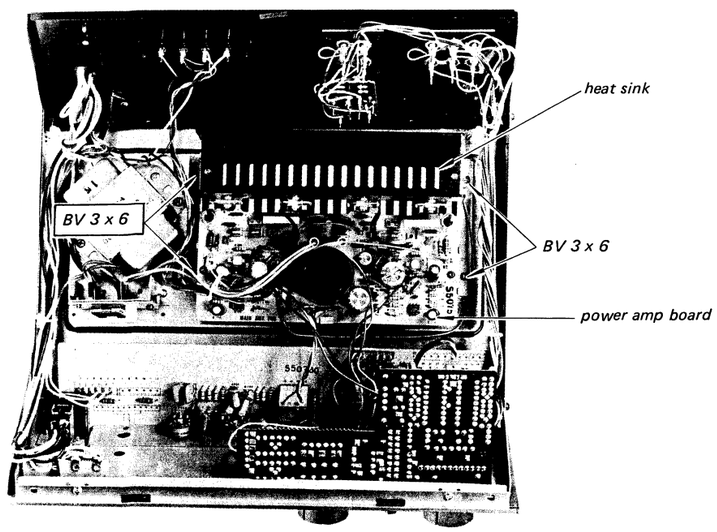
Remove four screws (± BW 4 x 22).



Two screws are on the opposite side.

POWER AMP BOARD REMOVAL

1. Remove four screws (BV 3 x 6).
2. Remove power amp board along with heat sink.



FRONT PANEL REMOVAL

1. Pull the knobs out.
2. Remove four screws marked ● (BV 3 x 6 Fig. A and B).

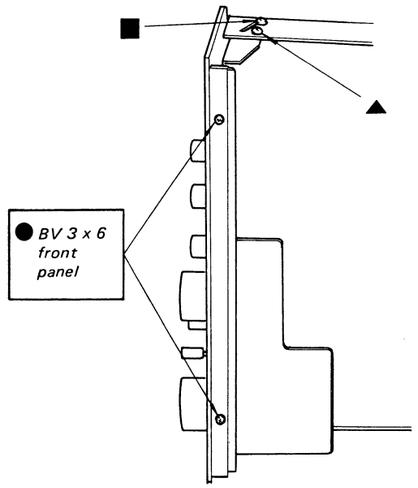


Fig. A Top view

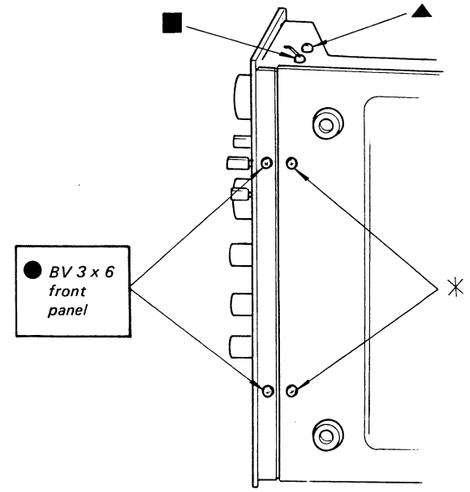


Fig. B Bottom view

CONTROL BOARD REMOVAL

1. Remove the front panel.
2. Remove three screws marked ★ (BV 3 x 6, Fig. C).

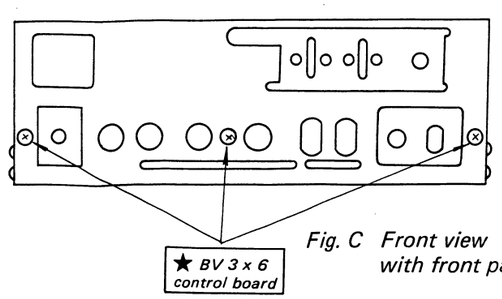


Fig. C Front view with front panel vemoved

HOW TO RAISE THE CIRCUIT BOARD (FUNCTION and CONTROL BOARD)

1. Remove two screws marked ▲ (BV 3 x 6, Fig. A and B).
2. Loosen two screws marked ■ (BV 3 x 6, Fig. A and B).
3. Remove two screws marked ✳ (BV 3 x 6, Fig. B).
4. Tilt the front panel section in the arrow direction as shown in Fig. D.

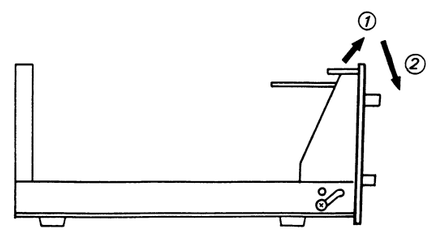
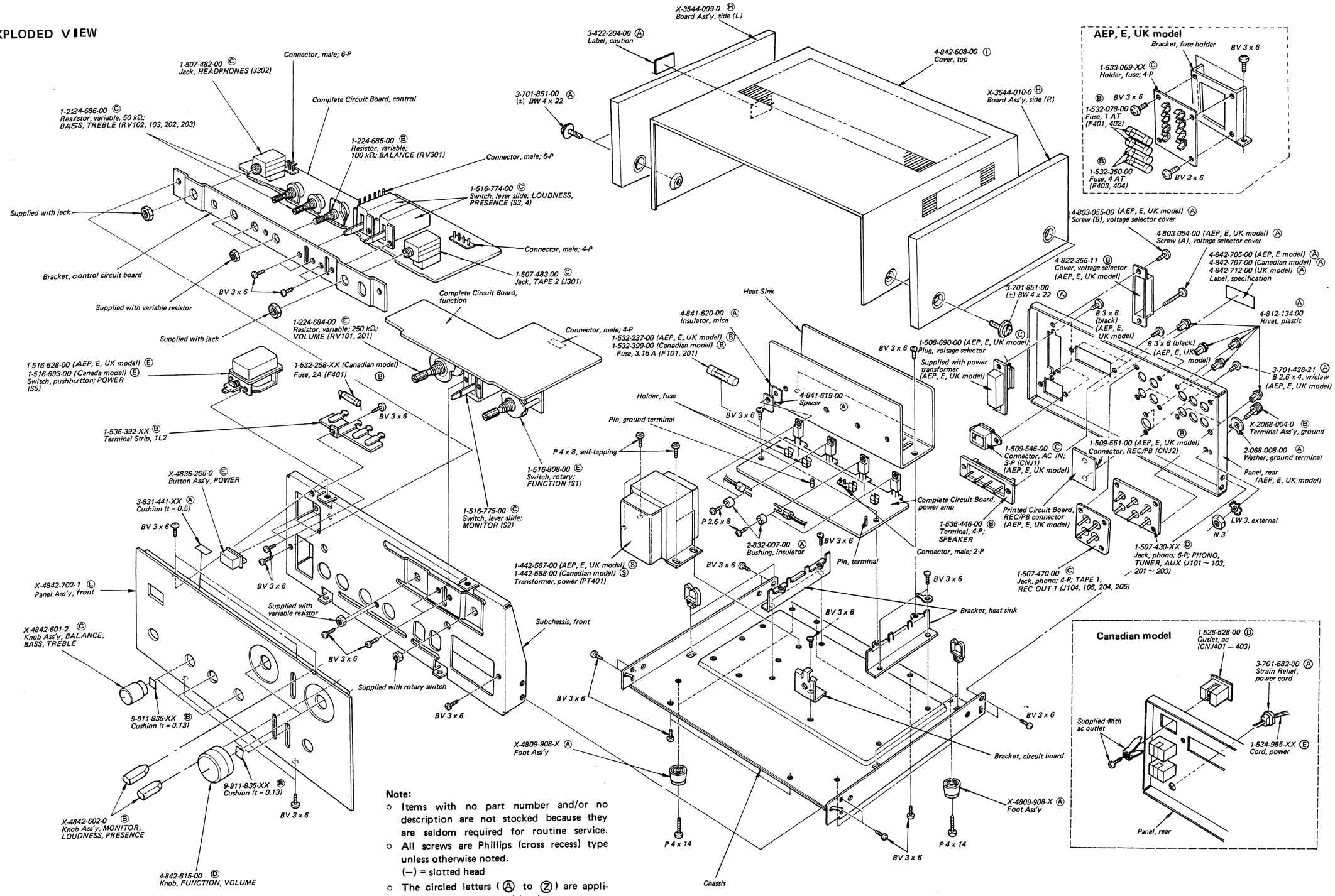


Fig. D Side view

7. EXPLODED VIEW


1-507-482-00 Ⓒ Jack, HEADPHONES (J302)
Connector, male; 6-P
Complete Circuit Board, control
1-224-686-00 Ⓒ Resistor, variable; 50 kΩ; BASS, TREBLE (RV102, 103, 202, 203)
1-224-685-00 Ⓑ Resistor, variable; 100 kΩ; BALANCE (RV301)
Connector, male; 6-P
1-516-774-00 Ⓒ Switch, lever slide; LOUDNESS, PRESENCE (S3, 4)
Supplied with jack
Connector, male; 4-P
Bracket, control circuit board
1-507-483-00 Ⓒ Jack, TAPE 2 (J301)
BV 3 x 6
Supplied with variable resistor
Complete Circuit Board, function
1-224-684-00 Ⓔ Resistor, variable; 250 kΩ; VOLUME (RV101, 201)
Supplied with jack
Connector, male; 4-P
1-516-628-00 (AEP, E, UK model) Ⓔ
1-516-693-00 (Canada model) Ⓔ
Switch, pushbutton; POWER (S5)
1-532-268-XX (Canadian model) Ⓑ
Fuse, 2A (F401)
BV 3 x 6
1-536-392-XX Ⓑ Terminal Strip, 1L2
1-516-808-00 Ⓔ Switch, rotary; FUNCTION (S1)
1-516-775-00 Ⓒ Switch, lever slide; MONITOR (S2)
X-4836-205-0 Ⓔ Button Ass'y, POWER
3-831-441-XX Ⓐ Cushion (t = 0.5)
BV 3 x 6
BV 3 x 6
X-4842-702-1 Ⓛ Panel Ass'y, front
Supplied with variable resistor
BV 3 x 6
Subchassis, front
Supplied with rotary switch
BV 3 x 6
X-4842-601-2 Ⓒ Knob Ass'y, BALANCE, BASS, TREBLE
9-911-835-XX Ⓑ Cushion (t = 0.13)
9-911-835-XX Ⓑ Cushion (t = 0.13)
BV 3 x 6
X-4842-602-0 Ⓑ Knob Ass'y, MONITOR, LOUDNESS, PRESENCE
4-842-615-00 Ⓓ Knob, FUNCTION, VOLUME
X-3544-009-0 Ⓗ Board Ass'y, side (L)
3-422-204-00 Ⓐ Label, caution
3-701-851-00 (±) BW 4 x 22 Ⓐ
4-842-608-00 Ⓘ Cover, top
X-3544-010-0 Ⓗ Board Ass'y, side (R)
AEP, E, UK model
Bracket, fuse holder
BV 3 x 6
1-533-069-XX Ⓒ Holder, fuse; 4-P
Ⓑ BV 3 x 6
1-532-078-00 Fuse, 1 AT (F401, 402)
Ⓑ 1-532-350-00 Fuse, 4 AT (F403, 404)
BV 3 x 6
4-803-055-00 (AEP, E, UK model) Ⓐ Screw (B), voltage selector cover
4-803-054-00 (AEP, E, UK model) Ⓐ Screw (A), voltage selector cover
4-842-705-00 (AEP, E model) Ⓐ
4-842-707-00 (Canadian model) Ⓐ
4-842-712-00 (UK model) Ⓐ
Label, specification
4-822-355-11 Ⓑ Cover, voltage selector (AEP, E, UK model)
3-701-851-00 (±) BW 4 x 22 Ⓐ
Heat Sink
4-841-620-00 Ⓐ Insulator, mica
1-532-237-00 (AEP, E, UK model) Ⓑ
1-532-399-00 (Canadian model) Ⓑ
Fuse, 3.15 A (F101, 201)
BV 3 x 6
1-508-690-00 (AEP, E, UK model) Ⓒ Plug, voltage selector
Supplied with power transformer (AEP, E, UK model)
B 3 x 6 (black) (AEP, E, UK model)
4-812-134-00 Ⓐ Rivet, plastic
B 3 x 6 (black) (AEP, E, UK model)
3-701-428-21 Ⓐ B 2.6 x 4, w/claw (AEP, E, UK model)
X-2068-004-0 Ⓑ Terminal Ass'y, ground
1-509-551-00 (AEP, E, UK model) Connector, REC/PB (CNJ2)
2-069-008-00 Ⓐ Washer, ground terminal
Panel, rear (AEP, E, UK model)
4-841-619-00 Ⓐ Spacer
BV 3 x 6
Holder, fuse
Pin, ground terminal
P 4 x 8, self-tapping
1-509-546-00 Ⓒ Connector, AC IN; 3-P (CNJ1) (AEP, E, UK model)
Complete Circuit Board, power amp
Printed Circuit Board, REC/PB connector (AEP, E, UK model)
P 2.6 x 8
1-536-446-00 Ⓑ Terminal, 4-P; SPEAKER
LW 3, external
N 3
2-832-007-00 Ⓐ Bushing, insulator
BV 3 x 6
Pin, terminal
Connector, male; 2-P
1-507-430-XX Ⓓ Jack, phono; 6-P; PHONO, TUNER, AUX (J101 ~ 103, 201 ~ 203)
1-507-470-00 Ⓒ Jack, phono; 4-P; TAPE 1, REC OUT 1 (J104, 105, 204, 205)
1-442-587-00 (AEP, E, UK model) Ⓢ
1-442-588-00 (Canadian model) Ⓢ
Transformer, power (PT401)
BV 3 x 6
BV 3 x 6
Bracket, heat sink
BV 3 x 6
BV 3 x 6
Bracket, circuit board
BV 3 x 6
X-4809-908-X Ⓐ Foot Ass'y
X-4809-908-X Ⓐ Foot Ass'y
P 4 x 14
P 4 x 14
BV 3 x 6
Chassis
Canadian model
1-526-528-00 Ⓓ Outlet, ac (CNJ401 ~ 403)
3-701-682-00 Ⓐ Strain Relief, power cord
Supplied with ac outlet
1-534-985-XX Ⓔ Cord, power
Panel, rear

Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- The circled letters (Ⓐ to Ⓩ) are applicable for European model only.

8. ELECTRICAL PARTS LIST

○ The circled letters (Ⓐ to Ⓩ) are applicable for European model only.

○ The circled letters (Ⓐ to Ⓩ) are applicable for European model only.

Ref. No.	Part No.	Description
		SEMICONDUCTORS
		Transistors
Q101, 201		Ⓑ 2SC1362
Q102, 202		Ⓑ 2SA705
Q103, 203 Q104, 204		Ⓑ 2SC1362
Q105, 205		Ⓓ 2SA884
Q106, 206		Ⓓ 2SA706
Q107, 207		Ⓒ 2SC1124
Q108, 208		Ⓒ 2SC1124
Q109, 209		Ⓓ 2SA706
Q110, 210		Ⓓ 2SD531
Q111, 211		Ⓔ 2SB521
		Diodes
D101, 201		Ⓒ SV04F
D301		Ⓑ 1T243
D401 ～404		Ⓑ 10E2
		CAPACITORS

All capacitors are in μF and of electrolytic unless otherwise noted. 50 or less working volts are omitted except for electrolytic type. (p = μμF)

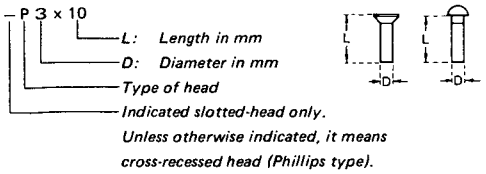
C101, 201	1-121-913-11	Ⓐ 3.3 25 V	
C102, 202	1-102-959-11	Ⓐ 22 p	ceramic
C103, 203	1-108-792-12	Ⓐ 0.001	mylar
C104, 204	1-108-801-12	Ⓐ 0.0056	mylar
C105, 205	1-108-794-12	Ⓐ 0.0015	mylar
C106, 206	1-101-880-11	Ⓐ 47 p	ceramic
C107, 207	1-123-077-11	Ⓑ 470 6.3 V (explosion proof)	
C108, 208	1-121-911-11	Ⓐ 0.47 50 V	
C120, 220 C121, 221	1-121-913-11	Ⓐ 3.3 25 V	
C130, 230 C131, 231	1-108-846-12	Ⓐ 0.056	mylar
C132, 232	1-108-828-12	Ⓐ 0.0018	mylar
C133 ～135 C233 ～235	1-121-913-11	Ⓐ 3.3 25 V	
C150, 250	1-102-973-11	Ⓐ 100 p	ceramic
C151, 251	1-108-827-12	Ⓐ 0.0015	mylar
C152, 252	1-108-825-12	Ⓐ 0.001	mylar
C153, 253	1-108-837-12	Ⓐ 0.01	mylar
C170, 270	1-121-413-11	Ⓔ 100 6.3 V	
C171, 271	1-101-880-11	Ⓐ 47 p	ceramic
C172, 272	1-121-413-11	Ⓔ 100 6.3 V	
C173, 273	1-105-679-12	Ⓐ 0.033	mylar
C301	1-123-066-11	Ⓑ 1000 25 V	
C302	1-123-065-11	Ⓑ 330 25 V	(explosion proof)
C311	1-123-064-11	Ⓑ 330 35 V	
C312	1-123-077-11	Ⓑ 470 6.3 V	(explosion proof)
C313	1-123-063-11	Ⓑ 220 35 V	
C314	1-121-945-11	Ⓒ 1000 35 V	
C401	1-125-097-11	Ⓗ (5600 35 V) x 2	
C402, 403	1-102-355-11	Ⓐ (0.01 500 V) x 2	ceramic
		RESISTORS	

All resistors are in ohms. Regular-type ¼W carbon resistors are omitted. Check schematic diagram for resistance values. k = 1000

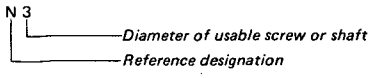
R181, 281	1-217-359-11	Ⓑ (0.47 2W) x 2	metal
R182, 282	1-202-525-11	Ⓐ 10 ½W	composition
R183, 283	1-202-517-11	Ⓐ 4.7 ½W	composition
R191, 291	1-202-561-11	Ⓐ 330 ½W	composition
R401	1-202-616-11	Ⓐ 62 k ½W	composition (AEP, E, UK model)
	1-202-618-11	Ⓐ 75 k ½W	composition (Canadian model)
RT101, 201	1-224-646-XX	Ⓑ 22 k	adjustable
RV101, 201	1-224-684-00	Ⓔ 250 k variable, VOLUME	
RV102, 202 RV103, 203	1-224-686-00	Ⓒ 50 k variable, BASS, TREBLE	
RV301	1-224-685-00	Ⓑ 100 k variable, BALANCE	
		SWITCHES	
S1	1-516-808-00	Ⓔ Rotary, FUNCTION	
S2	1-516-775-00	Ⓒ Lever Slide, MONITOR	
S3, 4	1-516-774-00	Ⓒ Lever Slide, LOUDNESS, PRESENCE	
S5	1-516-628-00	Ⓔ Pushbutton, POWER (AEP, UK model)	
	1-516-693-00	Ⓔ Pushbutton, POWER (Canadian model)	
		JACKS	
J101 ～103 J201 ～203	1-507-430-XX	Ⓓ Phono, 6-P; PHONO, TUNER, AUX	
J104, 204 J105, 205	1-507-470-00	Ⓒ Phono, 4-P; TAPE 1, REC OUT 1	
J301	1-507-483-00	Ⓒ TAPE 2	
J302	1-507-482-00	Ⓒ HEADPHONES	
		FUSES	
F101, 201	1-532-237-00	Ⓑ 3.15 A (AEP, E, UK model)	
	1-532-399-00	Ⓑ 3.15 A (Canadian model)	
F401	1-532-268-XX	Ⓑ 2 A (Canadian model)	
F401, 402	1-532-078-00	Ⓑ 1 AT (AEP, E, UK model)	
F403, 404	1-532-350-00	Ⓑ 4 AT (AEP, E, UK model)	
		MISCELLANEOUS	
CNJ1	1-509-546-00	Ⓒ Connector, AC IN, 3-P (AEP, E, UK model)	
CNJ2	1-509-551-00	Ⓑ Connector, REC/PB (AEP, E, UK model)	
CNJ401 ～403	1-526-528-00	Ⓓ Outlet, ac (Canadian model)	
NL401	1-519-139-11	Ⓑ Lamp, neon	
PT401	1-442-587-00	Ⓢ Transformer, power (AEP, E, UK model)	
	1-442-588-00	Ⓢ Transformer, power (Canadian model)	
	1-508-690-00	Ⓒ Plug, voltage selector (AEP, E, UK model)	
	1-231-057-31	Ⓑ Encapsulated Component (Canadian model)	
	1-533-069-XX	Ⓒ Holder, fuse; 4-P (AEP, E, UK model)	
	1-534-985-XX	Ⓔ Cord, power (Canadian model)	
	1-536-392-XX	Ⓑ Terminal Strip, 1L2	
	1-536-446-00	Ⓑ Terminal, 4-P; SPEAKER	
		ACCESSORIES	
	X-4842-703-3	Ⓕ Carton Ass'y (AEP, UK, Canadian, E model)	
	1-534-819-00	Ⓔ Cord, power (UK model)	
	3-780-750-11	Ⓑ Manual, instruction (AEP, UK, Canadian, E model)	

HARDWARE NOMENCLATURE

Screw:



Nut, Washer, Retaining ring:



Reference Designation	Shape	Description	Remarks
		SCREWS	
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		braizer-head screw	

Reference Designation	Shape	Description	Remarks
		SELF-TAPPING SCREWS	
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
		SET SCREWS	
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
		NUT	
N		nut	
		WASHERS	
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
		RETAINING RINGS	
E		retaining ring	
G		grip-type retaining ring	